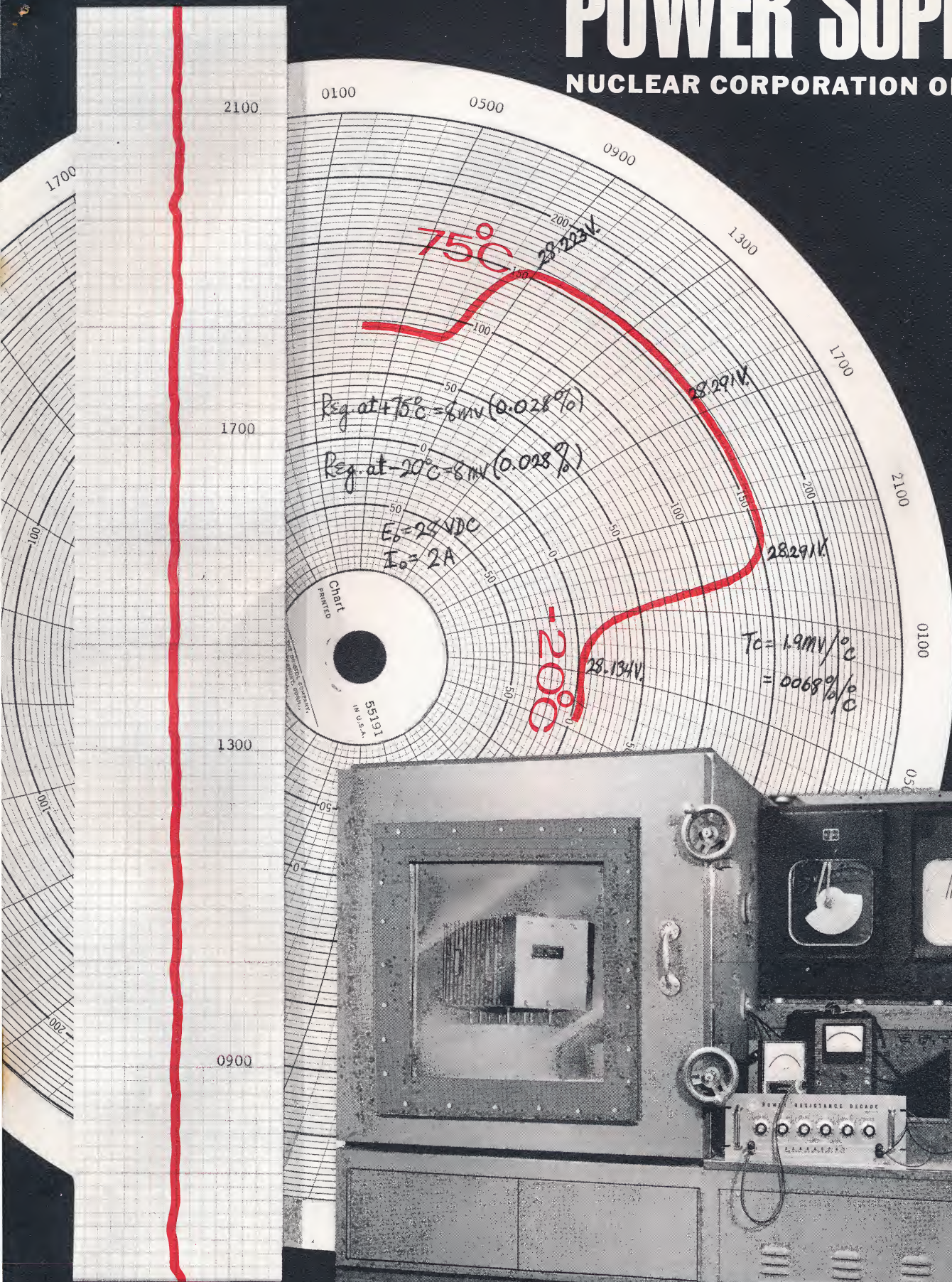


POWER SUPPLIES

NUCLEAR CORPORATION OF AMERICA



28.1V 28.0V 27.9V



2 RICHWOOD PLACE, DENVER, NEW JERSEY 07834 (201) OAKWOOD 7-4200



power supplies

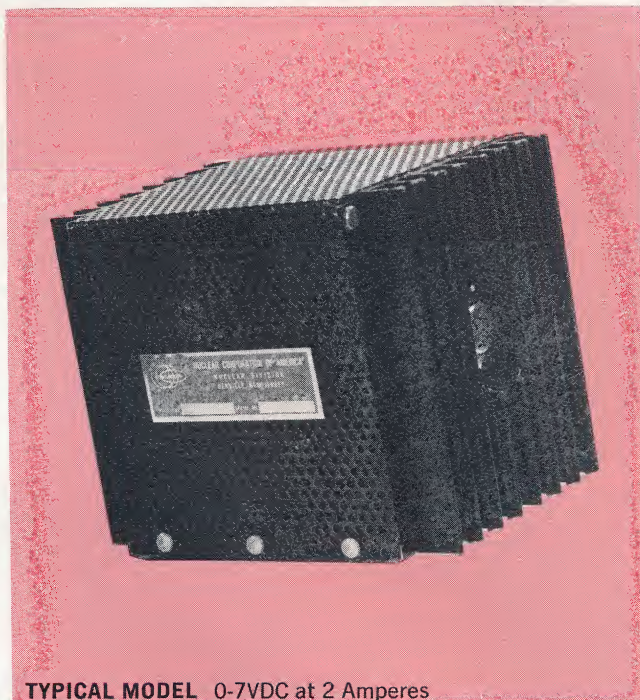
GENERAL SPECIFICATIONS

ALL SILICON POWER SUPPLIES

Check the specs. . . . examine the design of the most "serviceable" power supply made. NUCOR — the unit with complete modular construction that is fully repairable in the field . . . the unit with cascaded gain providing transistor or component interchange without prior selection . . . the unit where military counterparts can replace commer-

cial parts without mechanical or mounting dimension modification . . . the unit with no thermal derating — (we mean NO derating . . . and there are no charts or curves in fine print that will modify this statement!) A stock NUCOR power supply eliminates the need for most custom designs. **Check the "specs"** — see for yourself.

DESIGN FEATURES



TYPICAL MODEL 0-7VDC at 2 Amperes
Case Size: A2 (6¼" D x 4⅞" W x 5" H)

- Conservatively rated components
- Full solid-state circuitry
- Silicon transistors and semi-conductors used exclusively
- Fully rated to +75°C — no fans or additional heat sinks required
- Adjustable voltage setting
- Isolated and ungrounded outputs
- Completely serviceable
- Overload protected
- Short-circuit protected
- Excellent transient recovery
- Remote error load sensing provided
- Easily installed and connected
- No warm up time required — fast stabilization
- Remote programming available
- Series operation
- Complete modular construction
- High MTBF design

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power supplies

MICRO-CIRCUITRY
IN
POWER SUPPLIES

NEW

NUCOR POWER SUPPLIES

WITH OPTIONAL INTEGRATED CIRCUITRY

URGENT! Military and high reliability commercial programs require the use of micro-integrated circuits whenever possible. Where conventional circuits are utilized, it is mandatory that they be easily converted to solid state micro-integrated circuits. Now, from the design laboratories at NUCOR come the first power supplies utilizing monolithic integrated circuitry in the error sensing and control amplifier sections. The use of this integrated micro-circuit provides the supply with reliability and performance characteristics not obtainable from conventional devices:

IN FABRICATION...

The monolithic integrated circuit (0.260" x 0.260" x 0.050") replaces the following conventional components: 9 transistors, 12 resistors, and 39 solder connections (in addition to the printed circuit board for these components).

RESULT: Highest MTBF of any regulated power supply because of use of fewer components.

IN ELECTRICAL OPERATION...

Increased immunity from thermal changes or from voltage variations to the integrated circuit as the result of the superior matchings of the transistors on a single semi-conductor chip.

RESULT: Highest MTBF of any power supply because of the extremely small mass. The variations in temperature in the device are insignificant thereby inherently increasing the stability of the circuitry over conventional devices.

The average temperature coefficient of these amplifiers is in the order of $5\mu V/^{\circ}C$ (five microvolts per degree centigrade).

IN RELIABILITY...

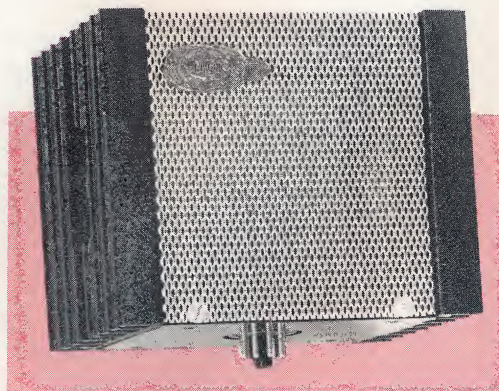
Tests at MIT and Fairchild on microcircuits totaling almost 78 million operating hours without a single failure!

Tests at the Martin Company (Orlando, Florida) operated microcircuits in a ring oscillator for 1 million element hours at $75^{\circ}C$. without a single failure.

REASONS FOR HIGH RELIABILITY:

Microcircuits are produced by growing extremely stable junction material formed beneath an equally stable oxide material. The oxide layer permanently seals the junctions of the transistors and prevents any surface variations from affecting the circuitry.

RESULT: Highest MTBF of any power supply because of the elimination of hand soldering and mechanical wiring of the inner circuitry.



All NUCOR supplies are available with micro-circuitry at slight additional cost without delay. See price list for details.

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power supplies

GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

This ultra reliable family of NUCOR modular power supplies provides design freedom not previously available in conventional power supplies. Available in various current ratings, these all planar-transistor models are available with various adjustable outputs in the range from 0-50 volts. Conservatively rated components and sophisticated design features assure trouble free operation up to 75°C without additional heat sinks or blowers.

SERVICEABLE...

All components are readily accessible. Replacement for service can be made with any equal commercial component or its military counterpart. No pre-selection is necessary for operations to specifications.

ADVANCED DESIGN TECHNIQUES...

Advanced designs on all models include: automatic recovery from short circuits, stable high gain circuitry, no positive feedback, remote sensing, series operation and isolated outputs.

GENERAL SPECIFICATIONS

INPUT POWER:

Nominal 115 vac $\pm 10\%$ 47-440 cps

OUTPUT POWER:

See tables

REGULATION:

Line 2 mv. or 0.02%. Load 4 mv or 0.025%

RIPPLE AND NOISE:

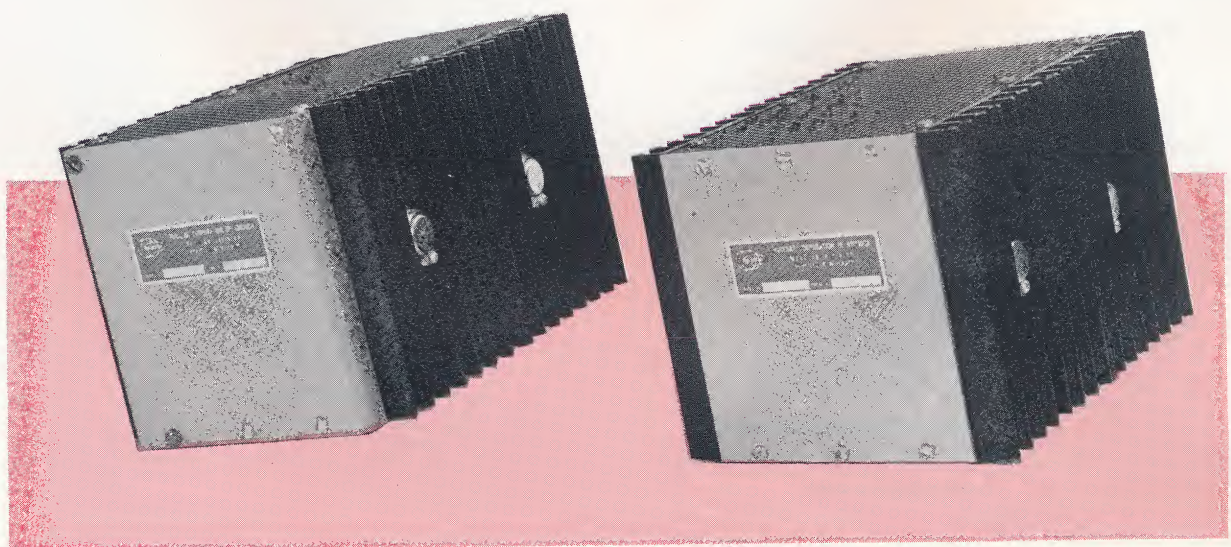
Less than 1mv peak-peak combined
typical value 250 microvolts RMS

OUTPUT TRANSIENT RECOVERY:

Less than 50 microseconds
typical 20 microseconds

TEMPERATURE COEFFICIENT:

From -20 to $+75^{\circ}\text{C}$ — less than
0.01% per degree centigrade or
3mv — typical 0.0075%



TYPICAL 8 AMPERE MODEL Case Sizes: E6 (6 $\frac{3}{4}$ " D x 10" W x 5" H) F6 (7 $\frac{1}{8}$ " D x 10 $\frac{1}{8}$ " W x 5 $\frac{1}{2}$ " H)

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power supplies

MECHANICAL SPECIFICATIONS

1, 2, 4 & 8 AMPERE UNITS

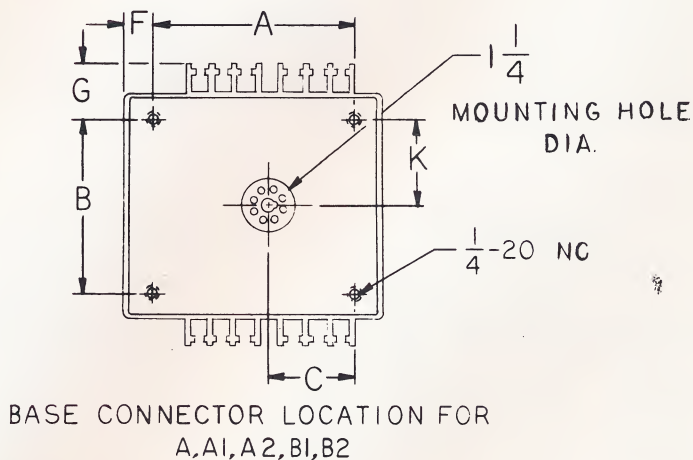
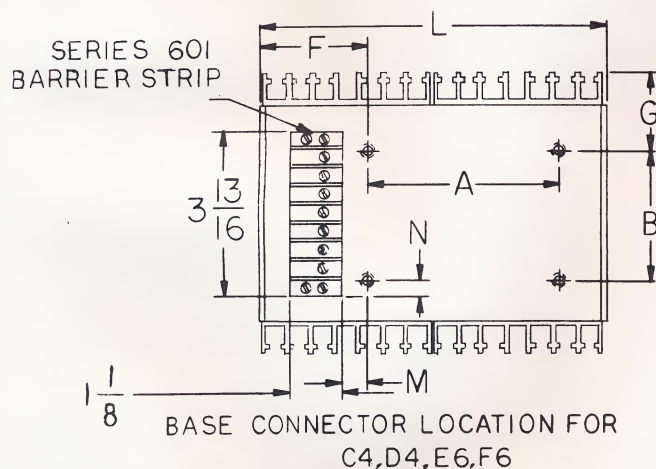
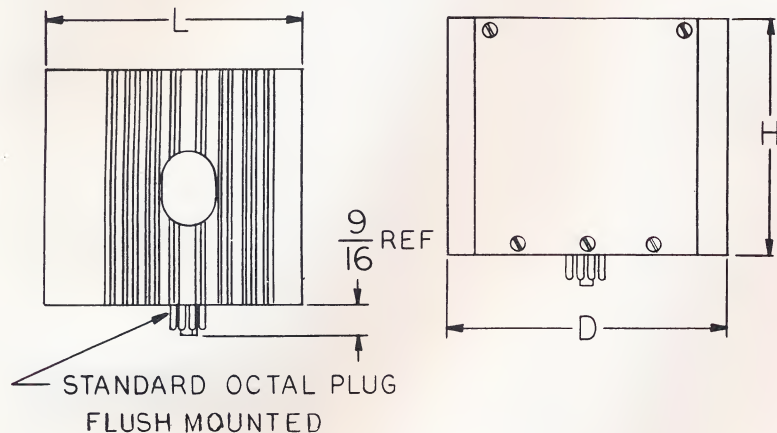
REDUCED SIZES

NUCOR power supplies are normally designed to operate with an input power frequency of 47-440 cycles. Units are available for operation at 400 or 1300 cycles with reduced size and weight advantages.

POWER CONNECTIONS

Input and output power connections are normally supplied either as a standard male octal connector or, for large units, by means of a barrier strip. NUCOR units are available with standard MS connectors at slight additional cost. Please specify, if so desired.

Remote load sensing is standard without additional cost on all power supplies with current ratings of 1 ampere and over in rating and can be provided on any other NUCOR supply upon request.



MODULAR UNITS

ALL DIMENSIONS IN INCHES

CASE SIZE	DEPTH	LENGTH	HEIGHT	A	B	F	G	C	K	M	N
A0	4 ¹ / ₁₆	4 ⁷ / ₈	5	3 ³ / ₈	3 ³ / ₈	3/4	2 ⁵ / ₃₂	2 ²⁵ / ₃₂	2 ⁵ / ₁₆		
A1	5 ¹ / ₃₂	4 ⁷ / ₈	5	3 ³ / ₈	3 ³ / ₈	3/4	1 ⁷ / ₁₆	2 ²⁵ / ₃₂	2 ⁵ / ₁₆		
A2	6 ¹ / ₄	4 ⁷ / ₈	5	3 ³ / ₈	3 ³ / ₈	3/4	1 ⁷ / ₁₆	2 ²⁵ / ₃₂	2 ⁵ / ₁₆		
B1	5 ⁷ / ₈	6	5 ¹ / ₂	4 ³ / ₄	4	5/8	5/8	2	2		
B2	6 ¹ / ₂	6	5 ¹ / ₂	4 ³ / ₄	4	5/8	1 ¹ / ₄	2	2		
C4	6 ³ / ₄	8 ¹ / ₂	5 ¹ / ₂	4 ¹ / ₂	3	2 ¹ / ₂	1 ⁷ / ₈			1 ⁹ / ₃₂	1 ³ / ₃₂
D4	6 ³ / ₄	9 ¹ / ₂	5 ¹ / ₂	5 ¹ / ₂	3	2 ¹ / ₂	1 ⁷ / ₈			1 ⁹ / ₃₂	1 ³ / ₃₂
E6	6 ³ / ₄	10	5 ¹ / ₂	4 ¹ / ₂	3	2 ¹ / ₂	1 ⁷ / ₈			9/32	1 ³ / ₃₂
F6	7 ¹ / ₁₆	10 ¹ / ₈	5 ¹ / ₂	5 ¹ / ₂	3	2 ¹ / ₂	2 ¹ / ₃₂			1 ⁹ / ₃₂	1 ³ / ₃₂

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power supplies

1 & 2 AMPERE POWER MODULES

1 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING— UP TO 1.5 AMPERES OUTPUT AT LOWER TEMPERATURES

Model No.	Output Range Volts D.C.	Case Size	Price
NP071	0-7	A1	\$155.00
NP51	3.5-5.5	A0	145.00
NP61	4-8	A0	145.00
NP71	5.5-8.5	A0	145.00
NP81	6.5-9.5	A0	145.00
NP91	7.5-10.5	A0	145.00
NP101	8.5-11.5	A0	145.00
NP111	9.5-12.5	A0	145.00
NP121	10-14	A0	145.00
NP131	11.5-14.5	A1	145.00
NP141	12.5-15.5	A1	145.00
NP151	13.5-16.5	A1	145.00
NP161	14.5-17.5	A1	145.00
NP171	15.5-18.5	A1	145.00
NP181	16-20	A1	145.00
NP191	17.5-20.5	A1	145.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP201	18.5-21.5	A1	\$145.00
NP211	19.5-22.5	A1	150.00
NP221	20.5-23.5	A1	150.00
NP231	21.5-24.5	A1	150.00
NP241	22-26	A1	150.00
NP251	23.5-26.5	A1	150.00
NP261	24.5-27.5	A1	150.00
NP271	25.5-28.5	A1	150.00
NP281	26-30	A1	150.00
NP291	27.5-30.5	A1	150.00
NP301	28.5-31.5	A1	155.00
NP311	29.5-32.5	A1	155.00
NP321	30-34	A1	155.00
NP331	31.5-34.5	A1	155.00
NP341	32.5-35.5	B1	185.00
NP351	33.5-36.5	B1	185.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP361	34.5-37.5	B1	\$185.00
NP371	35.5-38.5	B1	185.00
NP381	36.5-39.5	B1	185.00
NP391	37.5-40.5	B1	185.00
NP401	38.5-41.5	B1	185.00
NP411	39.5-42.5	B1	185.00
NP421	40.5-43.5	B1	185.00
NP431	41.5-44.5	B1	185.00
NP441	42.5-45.5	B2	190.00
NP451	43.5-46.5	B2	190.00
NP461	44.5-47.5	B2	190.00
NP471	45.5-48.5	B2	190.00
NP481	46-50	B2	190.00
NP491	47.5-50.5	B2	190.00
NP501	48.5-51.5	B2	190.00

2 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING— UP TO 3 AMPERES OUTPUT AT LOWER TEMPERATURES

Model No.	Output Range Volts D.C.	Case Size	Price
NP072	0-7	A2	\$175.00
NP52	3.5-6.5	A1	170.00
NP62	4-8	A1	170.00
NP72	5.5-8.5	A1	170.00
NP82	6.5-9.5	B1	185.00
NP92	7.5-10.5	B1	185.00
NP102	8.5-11.5	B1	185.00
NP112	9.5-12.5	B1	185.00
NP122	10-14	B1	185.00
NP132	11.5-14.5	B1	185.00
NP142	12.5-15.5	B1	185.00
NP152	13.5-16.5	B1	185.00
NP162	14.5-17.5	B1	185.00
NP172	15.5-18.5	B1	185.00
NP182	16-20	B2	190.00
NP192	17.5-20.5	B2	190.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP202	18.5-21.5	B2	\$190.00
NP212	19.5-22.5	B2	190.00
NP222	20.5-23.5	B2	190.00
NP232	21.5-24.5	B2	190.00
NP242	22-26	B2	190.00
NP252	23.5-26.5	B2	190.00
NP262	24.5-27.5	B2	190.00
NP272	26.5-29.5	B2	190.00
NP282	26-30	B2	190.00
NP292	27.5-30.5	B2	190.00
NP302	28.5-31.5	B2	190.00
NP312	29.5-32.5	B2	190.00
NP322	30-34	B2	199.00
NP332	31.5-34.5	B2	199.00
NP342	32.5-35.5	B2	199.00
NP352	33.5-36.5	B2	199.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP362	34.5-37.5	B2	\$199.00
NP372	35.5-38.5	B2	199.00
NP382	36.5-39.5	C4	205.00
NP392	37.5-40.5	C4	205.00
NP402	38.5-41.5	C4	205.00
NP412	39.5-42.5	C4	205.00
NP422	40.5-43.5	C4	205.00
NP432	41.5-44.5	C4	205.00
NP442	42.5-45.5	C4	205.00
NP452	43.5-46.5	C4	205.00
NP462	44.5-47.5	C4	205.00
NP472	45.5-48.5	C4	235.00
NP482	46.5-49.5	C4	235.00
NP492	47.5-50.5	C4	235.00
NP502	48.5-51.5	C4	250.00

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power supplies

4 & 8 AMPERE POWER MODULES

4 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING— UP TO 5 AMPERES OUTPUT AT LOWER TEMPERATURES

Model No.	Output Range Volts D.C.	Case Size	Price
NP074	0-7	C4	\$299.00
NP54	3.5-5.5	B2	285.00
NP64	6-10	B2	285.00
NP74	5.5-8.5	B2	285.00
NP84	6.5-9.5	B2	285.00
NP94	7.5-10.5	B2	285.00
NP104	8.5-11.5	B2	285.00
NP114	9.5-12.5	B2	285.00
NP124	10-14	B2	290.00
NP134	11.5-14.5	B2	290.00
NP144	12.5-15.5	B2	290.00
NP154	13.5-16.5	B2	290.00
NP164	14.5-17.5	B2	290.00
NP174	15.5-18.5	B2	290.00
NP184	16-20	C4	295.00
NP194	17.5-20.5	C4	295.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP204	18.5-21.5	C4	\$295.00
NP214	19.5-22.5	C4	295.00
NP224	20.5-23.5	C4	295.00
NP234	21.5-24.5	C4	295.00
NP244	22-26	C4	295.00
NP254	23.5-26.5	C4	295.00
NP264	24.5-27.5	C4	295.00
NP274	25.5-28.5	C4	295.00
NP284	26-30	C4	295.00
NP294	27.5-30.5	C4	295.00
NP304	28.5-31.5	C4	295.00
NP314	29.5-32.5	C4	305.00
NP324	30-34	C4	305.00
NP334	31.5-34.5	C4	305.00
NP344	32.5-35.5	C4	305.00
NP354	33.5-36.5	C4	310.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP364	34.5-37.5	C4	\$310.00
NP374	35.5-38.5	C4	310.00
NP384	36.5-39.5	C4	310.00
NP394	37.5-40.5	D4	340.00
NP404	38.5-41.5	D4	340.00
NP414	39.5-42.5	D4	340.00
NP424	40.5-43.5	D4	340.00
NP434	41.5-44.5	D4	340.00
NP444	42.5-45.5	D4	340.00
NP454	43.5-46.5	D4	345.00
NP464	44.5-47.5	D4	345.00
NP474	45.5-48.5	D4	345.00
NP484	46.5-49.5	D4	345.00
NP494	47.5-50.5	D4	375.00

8 AMPERE MODULES

+75°C AMBIENT WITHOUT DERATING— UP TO 12 AMPERES OUTPUT AT LOWER TEMPERATURES

Model No.	Output Range Volts D.C.	Case Size	Price
NP078	0-7	E6	\$375.00
NP58	3.5-6.5	C4	355.00
NP68	6-10	C4	355.00
NP78	5.5-8.5	C4	355.00
NP88	6.5-9.5	C4	355.00
NP98	7.5-10.5	C4	375.00
NP108	8.5-11.5	D4	375.00
NP118	9.5-12.5	D4	375.00
NP128	10-14	D4	375.00
NP138	11.5-14.5	D4	375.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP148	12.5-15.5	D4	\$375.00
NP158	13.5-16.5	D4	375.00
NP168	14.5-17.5	D4	375.00
NP178	15.5-18.5	D4	375.00
NP188	16-20	D4	375.00
NP198	17.5-20.5	D4	375.00
NP208	18.5-21.5	F6	395.00
NP218	19.5-22.5	F6	395.00
NP228	20.5-23.5	F6	395.00
NP238	21.5-24.5	F6	395.00

Model No.	Output Range Volts D.C.	Case Size	Price
NP248	22-26	F6	\$395.00
NP258	23.5-26.5	F6	395.00
NP268	24.5-27.5	F6	395.00
NP278	25.5-28.5	F6	395.00
NP288	26.5-29.5	F6	395.00
NP298	27.5-30.5	F6	395.00
NP308	28.5-31.5	F6	395.00
NP318	29.5-32.5	F6	399.00
NP328	30-34	F6	399.00

MICRO-INTEGRATED CIRCUIT OPTION

For models incorporating micro-integrated circuitry in the error sensing and control amplifier sections add \$30 to above prices.

PRICES and DISCOUNTS

QUANTITY	DISCOUNT
1-4	NET
5-9	Less 5%
10-19	Less 10%
20-24	Less 20%

Nuclear Corporation of America will be pleased to quote on any quantity purchases. Write and furnish specifications for a prompt reply. No obligation.

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power supplies

ORDERING INSTRUCTIONS

REPRESENTED BY
TESCO ASSOCIATES

114 MILES AVE., SYRACUSE 10, N. Y.

TED A. HENDEL, Field Engineer

GRanite 4-3291

ORDERING

Specify catalog number of power supply desired. Include significant specifications and options required such as "Micro-Integrated Circuitry" or type of connectors. Place order directly with Nuclear Corporation of America, 2 Richwood Place, Denville, N. J., or our factory representative in your area.

SHIPPING

Normal shipment by motor freight unless other means of transportation specified on your order.

TERMS

1% 10 Days, Net 30 Days to firms with established credit account. All other orders will be on a pre-paid or C.O.D. basis. All prices F.O.B. Denville, N. J.

QUOTATIONS

Requests for quotations promptly answered. All NUCOR power supplies are available in Mil Spec. versions.

Government quality assurance representatives are resident at our Denville plant.

OUR WARRANTY

NUCOR warrants all power supplies manufactured by us, to be free from original defects in material or workmanship. Our liability, under this warranty, is limited to servicing, or adjusting any instrument returned prepaid and with prior approval to the factory for that purpose, and to replace any defective parts thereof except tubes, NUCOR semiconductors and fuses. This warranty is made to the original purchaser and applies to all standard catalogue listed equipment for one year after delivery to the original purchaser. The provisions of this warranty shall not apply to any power supply which has been subject to misuse or which has been repaired or altered by the purchaser in any way so as, in the judgment of NUCOR, to adversely affect its performance or reliability, nor to normal deterioration of appearance due to wear or exposure.

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